

CLAIMS

1. (Currently Amended)An electric drive unit for generating an oscillating movement, the drive unit comprising:
a stator;
a rotor;
a torsion element ;and
a tuning element, which acts upon the torsion element and serves for mechanically tuning the resonant frequency of the drive unit, wherein the rotor comprises a hollow shaft, and wherein the torsion element is at least partially arranged within the hollow shaft.
2. (Currently Amended)The drive unit according to claim 1, wherein the tuning element is arranged to secure the torsion element in a selectable position.
3. (Currently Amended)The drive unit according claim 2, wherein the tuning element is arranged on the stator such that it can be displaced and fixed in position.
4. (Currently Amended)The drive unit according to claim 3, wherein the tuning element is displaceable parallel to the longitudinal axis of the drive unit.
5. (Currently Amended)The drive unit according to claim 3, wherein the tuning element engages into at least one groove in the stator.
6. (Currently Amended)The drive unit according to claim 1, wherein the tuning element comprises a clamping device.

7. (Currently Amended) The drive unit according to claim 6, wherein the tuning element comprises two parts and at least one connecting element configured to draw the two parts together.
8. (Currently Amended) The drive unit according to claim 1, wherein the torsion element is fixed on the rotor.
9. (Currently Amended) The drive unit according to claim 1, wherein the torsion element comprises a torsion rod.
10. (Currently Amended) The drive unit according to claim 1, further comprising a housing having a recess arranged to accommodate the tuning element.
11. (Currently Amended) The drive unit according to claim 1, wherein the stator comprises permanent magnets and at least one coil.
12. (Currently Amended) The drive unit according to claim 1, wherein the rotor comprises an armature of a magnetizable material.
13. (Currently Amended) A small electric appliance, comprising drive unit of claim 1.
14. (Currently Amended) The small appliance of claim 13, in the form of an electric toothbrush or an electric razor.
15. (Currently Amended) A method of manufacturing an electric drive unit for generating an oscillating movement, wherein the drive unit comprises a stator, a rotor, a torsion element and a tuning

element, and wherein the resonant frequency of the drive unit is mechanically tuned, the method comprising:

exciting the drive unit to generate an oscillating movement; and

determining from the oscillating movement a desired location on the torsion element for securing the tuning element to tune a resonant frequency of the drive unit.

16. (Currently Amended) The method of claim 15, further comprising
fixing the torsion element on the tuning element in the desired location.
17. (Currently Amended) The method according to claim 16, wherein exciting the drive unit comprises exciting the drive unit by pulses.
18. (Currently Amended) The method according to claim 15, further comprising switching the drive unit off, and then fixing the torsion element in a rotational position that the rotor assumes when the drive unit is switched off.